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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/536,743

05/27/2005

Estill Thone Hall Jr.

PU020471

4506

24498

7590

10/06/2006

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PATENT OPERATIONS  
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EXAMINER

DOWLING, WILLIAM C

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/536,743	Applicant(s) HALL JR. ET AL.	
	Examiner William C. Dowling	Art Unit 2851	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 May 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-22 and 25 is/are rejected.
- 7) ☒ Claim(s) 4,5,23,24 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 May 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>5/27/05</u> | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 8-11, 13-14, 17-20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Blackham et al. (5,978,142)

See figure 2

2. Claims 1, 6, 8-11, 13-14, 16-22, 25 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by WO 01/69941.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-3, 12, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/69941 in view of Parker (6,224,216).

WO 01/69941 discloses the invention substantially as claimed. WO 01/69941 teaches the use of digital imagers receiving pulse modulation in the form of DMD's. WO 01/69941 does not teach the use of LCOS systems as the modulators.

Parker et al. teaches a reflective projection device. As noted in Column 4 Lines 11-13 the device may alternatively use any of known types of reflective modulators, including DMD, LCOS or LCD.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the device of WO 01/69941 by the substitution of a different type of reflective modulator, such as an LCOS as taught by Parker, because both types would enable grayscale modulation.

5. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over WO 01/69941 and Parker and further in view of Hansen et al. (6,234,634).

WO 01/69941 discloses the invention substantially as claimed but does not teach the provision of a polarizing beam splitter in the light path.

Hansen et al. discloses the use of a PBS adjacent reflective light valves, such as LCOS's.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the combination of WO 01/69941 and Parker by the addition of a PBS when using polarization based reflective light valves in order to change the light path of the modulated light from the incident light.

***Allowable Subject Matter***

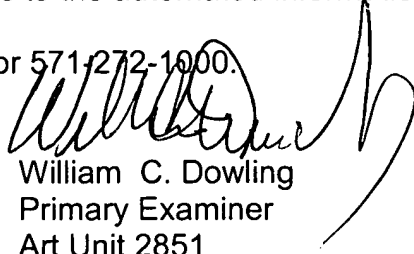
6. Claims 4-5, 23-24, 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2851

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Dowling whose telephone number is 571-272-2116. The examiner can normally be reached on MON-THURS.

8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



William C. Dowling  
Primary Examiner  
Art Unit 2851

wcd